1.1 Radio Astronomy

1.1.1 Maintenance and Calibration

- Tested successfully the script *m5erase* to condition Mark5 modules. Results are compatible with the manual process. All modules received from JPL were inspected and conditioned.
- Performance scripts (total and total.nmc) have been further modified and tested for Mark5 recorder only supports.
- Updated local Radio Astronomy Procedures for DSS-65 and DSS-55 Reference Frame Calibration (RFC) supports.
- Synchronized PCFS60 computer hard disks (containing different Field System application versions), and performed a backup from master disk to backup disk.
- Received Q-band post-amplifiers from JPL. Pending to be installed during next DSS-54 maintenance period.

1.1.2 Research and Development

From DOY 326 Host Country observations at DSS-63 antenna resumed. A workaround implemented and tested locally by the RA Department solved the problem originated due to an incompatibility between EAC XANT application and recent OP-C installation at DSS-63 (ATOT Development DOY 336).

Support to the Spitzer Project outreach talk at Centro Superior de Investigaciones Cientificas (CSIC HQ) with title: "**New Views of the Infrared Sky with SPITZER"**.

1.1.3 Observations

1.1.3.1 Host Country Spectroscopy

During this month spectroscopy observations with DSS-63 antenna were carried out using the SPB500 spectrometer and the MarkIV data acquisition terminal. Pointing checks were performed using the Antenna Calibration and Measurement Equipment (ACME). Following Host Country projects were performed using DSS-63 antenna:

D63-S08: Search for hot ammonia in the environments of LBV stars. Position and frequency switching modes were used.

DOY	minutes scheduled	minutes used	Percent good data	Activity	comments
346	360	180	50	"GBRA Host Country D63-S08"	OK

1.1.3.2 Interferometry

MDSCC participated in 3 Very Long Baseline Interferometric (VLBI) observations (1920 min in total):

- RFC Clock Synchronization on DSS-65 (2 observations; 480 min): For first observation 100% data collected; performance of the system nominal. For second observation DSS-65 had several problems with EL and AZ drives, as a result 3 sources were lost (7% of data was lost, DR#M105176).
- RFC Catalog X/Ka on DSS-55 (1 observation; 1440 min): DSS-55 antenna had several problems with EL and AZ drives, 20 sources were impacted (4% data lost, DR#M105187).